AlphaGen ACX2000i 120V Portable Generator

Operation Manual

Effective: July 2013

member of The alpha Group™

Power

Safety Notes

Review the drawings and illustrations contained in this manual before proceeding. If there are any questions regarding the safe installation or operation of the system, contact Alpha Technologies or the nearest Alpha representative. Save this document for future reference.

To reduce the risk of injury or death and to ensure the continued safe operation of this product, the following symbols have been placed throughout this manual. Where these symbols appear, use extra care and attention.

WARNING! ELECTRICAL HAZARD

ELECTRICAL HAZARD WARNING provides electrical safety information to PREVENT INJURY OR DEATH to the technician or user.

WARNING! FUMES HAZARD

FUMES HAZARD WARNING provides fumes safety information to PREVENT INJURY OR DEATH to the technician or user.

WARNING! FIRE HAZARD

FIRE HAZARD WARNING provides flammability safety information to PREVENT INJURY OR DEATH to the technician or user.

There may be multiple warnings associated with the call out. Example:

WARNING! FIRE & ELECTRICAL HAZARD

This WARNING provides safety information for both Electrical AND Fire Hazards

CAUTION!

CAUTION provides safety information intended to PREVENT DAMAGE to material or equipment.

NOTE:

NOTE provides additional information to help complete a specific task or procedure.

ATTENTION:

ATTENTION provides specific regulatory/code requirements that may affect the placement of equipment and /or installation procedures.

The following sections contain important safety information that must be followed during the installation and maintenance of the equipment and batteries. Read all of the instructions before installing or operating the equipment, and save this manual for future reference.

AlphaGen ACX2000i 120V Portable Generator Operation Manual

041-036-B000-001, Rev. A
Effective Date: July 2013
Copyright 2013
Alpha Technologies, Inc.

member of The Group™

NOTE:

Alpha denies responsibility for any damage or injury involving its enclosures, power supplies, generators, batteries or other hardware, manufactured by Alpha or members of the Alpha Group, when used for an unintended purpose, installed or operated in an unapproved manner, or improperly maintained.

NOTE:

Photographs and drawings in this manual are for illustrative purposes only and might not exactly match your installation.

NOTE:

Review this manual before proceeding. If there are questions regarding the safe installation or operation of this product, please contact Alpha Technologies or your nearest Alpha representative.

Contacting Alpha Technologies: *www.alpha.com*

or

For general product information and customer service (7 AM to 5 PM, Pacific Time), call

1-800-863-3930

For complete technical support, call

1-800-863-3364

7 AM to 5 PM, Pacific Time or 24/7 emergency support

To report errors in this document, send email to:*Techpubs@alpha.com*

Table of Contents

ACX2000i Safety Instructions 6
1.0 Introduction 7
1.1 ACX2000i Generator 7
1.2 ACX2000i Generator Accessories 7
1.3 Control Panel 8
1.4 Serial Number/Bar Code Identification Location 8
2.0 Operation 9
2.1 Oil Level 9
2.2 Fuel Level 10
2.3 Air Cleaner 11
2.4 Starting the Engine 12
2.5 High Altitude Operation 13
2.6 Operating at Extreme Temperatures 13
2.7 Using the Generator 14
2.8 AC Application 15
2.9 Output and Overload LEDs 16
2.10 DC Application 17
2.11 Low Oil Alarm System 19
2.12 Economy Switch 19
2.13 Stopping the Engine 20
3.0 Maintenance 21
3.1 Emission Control System 21
3.2 Maintenance Schedule 22
3.3 Changing Oil 23
3.4 Servicing the Air Cleaner 24
3.5 Spark Plug Maintenance 25
3.6 Spark Arrestor Maintenance 27
4.0 Transporting And Storage 28
4.1 Transporting the Generator 28
4.2 Short Term Storage of the Generator 28
4.3 Infrequent Use 28
4.4 Exercising the Generator 29
5.0 Troubleshooting 30
5.1 Engine will not start 30
5.2 Equipment does not Operate 31
5.3 No Output at the DC Receptacle 31
6.0 Specifications 32
7.0 Warranty And Consumer Information 33
Appendix A – Emission Control System Warranty 35
Appendix B – Emission Control System 36
Appendix C – Safety And Charging Instructions 36

Figures & Tables

Figure 1-1, Generator Controls 7
Figure 1-2, Control Panel Component Identification 8
Figure 1-3, Serial Number Location 8
Figure 1-4, Checking Engine Oil 9
Figure 2-1, Fuel Level 10
Figure 2-2, Air Filter Components 11
Figure 2-3, Starting the Engine 12
Figure 2-4, Temperature Range and OilTypes 13
Figure 2-5, Grounding the Generator 14
Figure 2-6, Control Panel AC Applications Components 15
Figure 2-7, Overload LED Location 16
Figure 2-8, Battery Charging 17
Figure 2-9, Circuit Breaker Location 18
Figure 2-10, Low Oil Alarm LED Location 19
Figure 2-11, Economy Switch Location 19
Figure 2-12, Engine Switch Location 20
Figure 3-1, Example of Emission Control Tag 22
Figure 3-2, Temperature Range and OilTypes 23
Figure 3-3, Changing Engine Oil 23
Figure 3-4, Cleaning the Air Filter 24
Figure 3-5, Accessing the Spark Plug 25
Figure 3-6, Gapping the Spark Plug 26
Figure 3-7, Maintaining the Spark Arrester 27
Figure 4-1, Cranking Motor to Distribute Oil in Cylinder 29

Table 3-1, ACX2000i Maintenance Schedule 22
Table 6-1, ACX2000i Generator Specifications 32

ACX2000i Safety Instructions

Alpha considers customer safety and satisfaction its most important priority. To reduce the risk of injury or death and to ensure continual safe operation of this product, read this manual entirely and follow all safety information therein.

WARNING! INJURY HAZARDS

- The muffler is hot during and after operation for a few minutes.
- Do not to touch the muffler while it is hot.
- Keep away from moving parts while the generator is running.

WARNING! FUMES & FIRE HAZARD

- Generator produces poisonous carbon monoxide. Never run the generator in an enclosed area.
- Gasoline is extremely flammable and explosive under certain conditions.
- Refuel in a well ventilated area with the engine stopped.
- Keep away from cigarette smoke and sparks when refueling the generator.
- Wipe up spilled gasoline immediately.
- Let the engine cool before storing the generator indoors.

WARNING! ELECTRICAL HAZARD

Generators are a potential source of electrical shocks when misused; do NOT operate wet conditions.

CAUTION!

- Do not operate the generator in rain or snow, and do not let it get wet.
- Do not modify the enclosure of this generator.
- To avoid equipment damage, always check the oil and fuel level and air filter before you start the engine.
- Place the generator at least 3 ft (1 m) away from buildings during operation.
- Operate the generator on a level surface. If the generator is tilted, fuel spillage may result.
- Know how to stop the generator quickly and understand operation of all controls. Never permit anyone to operate the generator without proper instructions.

Read the entire manual and review all the drawings and illustrations contained in this manual before proceeding. If there is any question regarding the safe installation or operation of the product or its components, contact Alpha Technologies or the nearest Alpha representative. Save this document for future reference.

1.0 Introduction

1.1 ACX2000i Generator

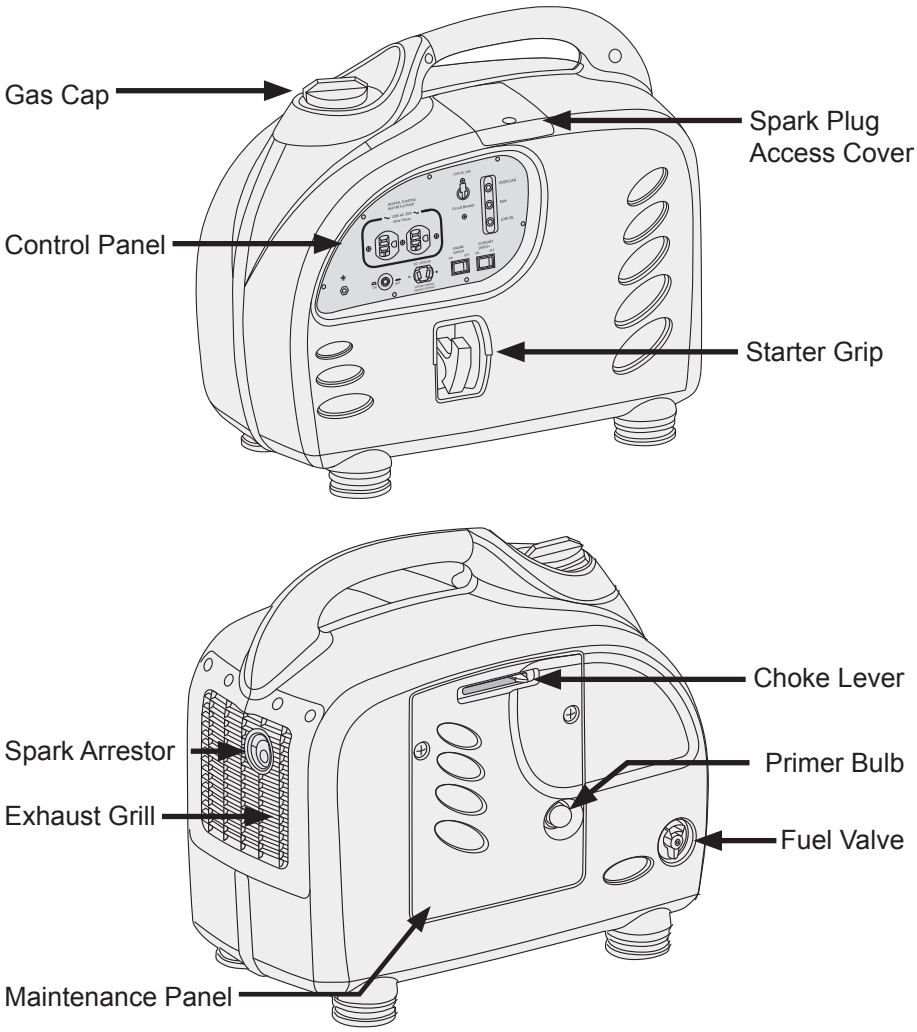


Figure 1-1, Generator Controls

1.2 ACX2000i Generator Accessories

The following additional items are included with the generator. Keep all accessories in a convenient location for future use or reference.

- Battery Charge Kit
- Oil Jug
- Oil Drain Pipe
- Quick Start Guide
- Screwdriver
- Spare Spark Plug
- Spark Plug Wrench

1.3 Control Panel

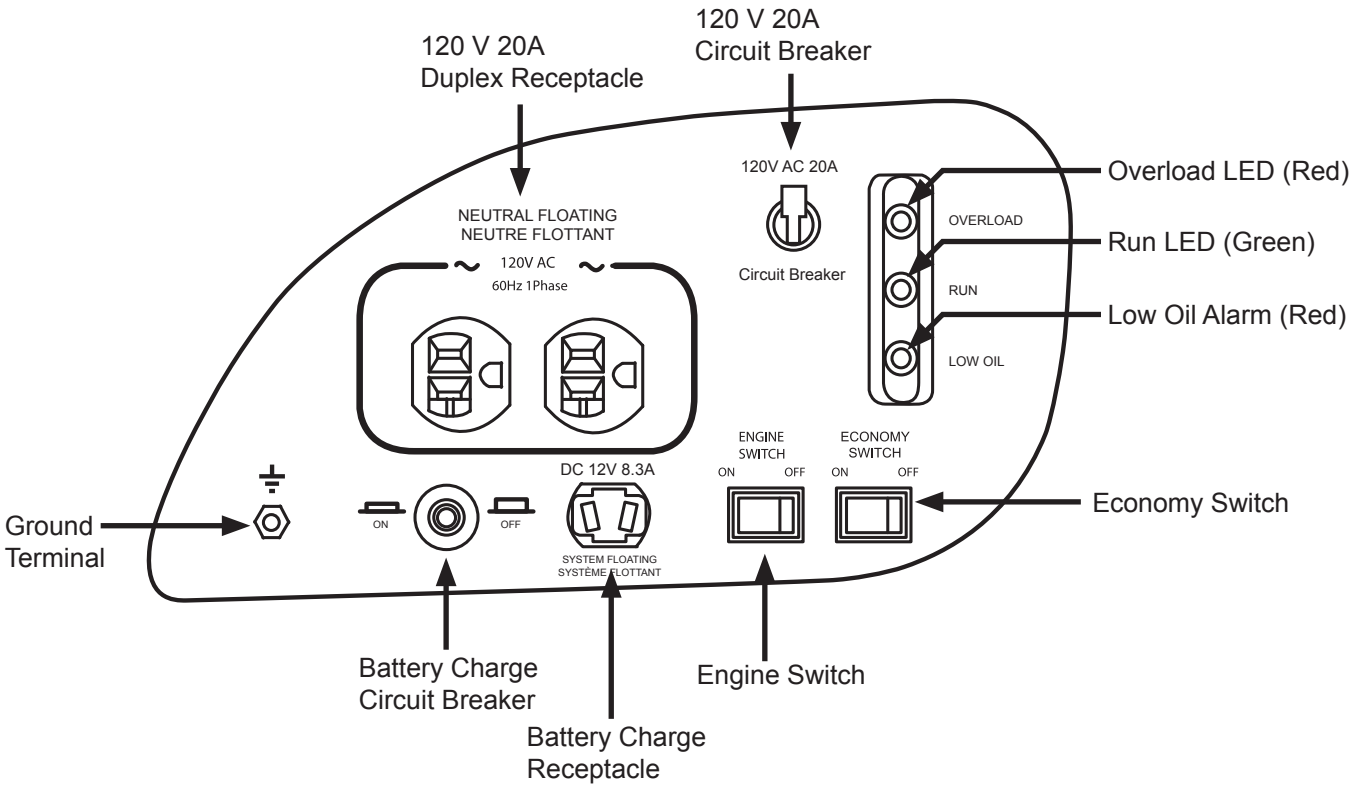


Figure 1-2, Control Panel Component Identification

1.4 Serial Number/Bar Code Identification Location

The generator bar code number and the engine serial number identify your particular unit and are necessary when ordering parts and accessories. These two numbers are used by the dealer and The Coast Distribution System, Inc. for warranty administration and must be supplied before any work can be done.

The engine serial number can be found stamped on the engine block above oil dipstick. It is visible when the maintenance panel is removed.

The bar code number label is found in three locations:

- On the side of the generator near the fuel valve.
- On the back of this manual.

The BCN number is on the foil label on the shipping carton. Please record this information in a convenient location for reference.

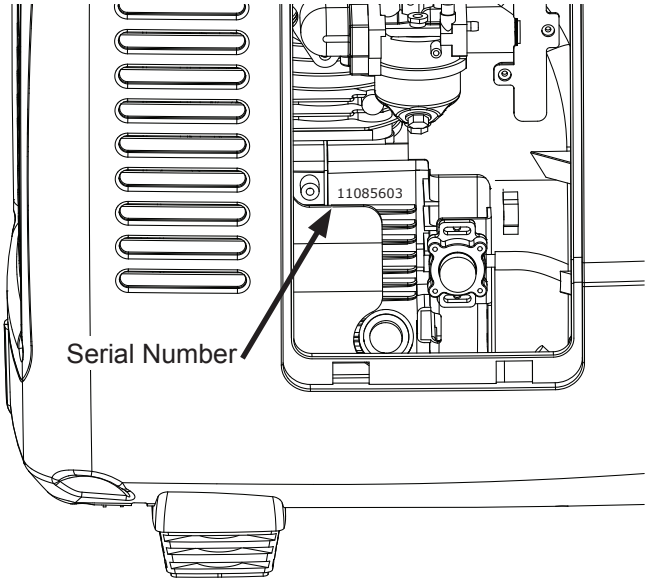


Figure 1-3, Serial Number Location

2.0 Operation

2.1 Oil Level

CAUTION!

- Check the oil level before every operation.
- Check the oil level with the generator on a level surface with the engine stopped.
- Do not use non-detergent oil or 2-stroke engine oil. It will void the warranty and will shorten the engine's service life.
- Use a high-detergent, premium quality, 4-stroke engine oil, certified to meet or exceed U.S. automobile manufacturer's requirements for API Service Classification SG/SF.
- Change the oil in a new engine between the first 4 to 6 hours of operation to remove manufacturing debris and contamination.
- Use SAE 15W-40 viscosity oil unless operating at ambient temperatures below 32° F (0° C). For temperatures below 32° F, use SAE 0W-40 viscosity oil. Refer to the Operating at extreme temperatures section for more information.
- Synthetic oil is approved for use in Alpha generators generally, and is recommended when operating the generator in temperatures below 32° F. Use synthetic oil to fill the oil well of the generator, and use it for subsequent oil changes.
- Running the engine with insufficient oil can cause serious engine damage.
- The Low Oil Alarm System will automatically stop the engine before the oil level falls below a safe limit.

Required Tools

- Screwdriver
- Clean rag

Engine oil capacity: 15.6 fl oz (0.98 pt) / 460 ml.

1. Loosen the cover screws and remove the maintenance cover.
2. Remove the dipstick, wipe it with a clean rag and reinsert it into the filler neck, screwing it down completely.
3. Remove the dipstick again and check the oil level.
4. If the oil level is at or below the lower level of the dipstick, refill with the recommended oil up to the top of the upper level marking. Do not overfill.
5. Reinsert the dipstick and be sure to screw it down until it is tight.

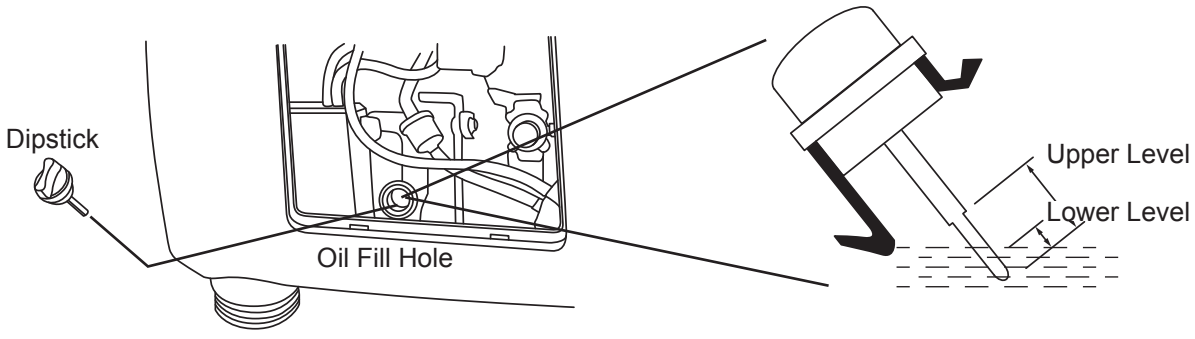


Figure 1-4, Checking Engine Oil

2.0 Operation

2.2 Checking the Fuel Level

CAUTION!

- Use a fuel stabilizer, such as STA-BIL®, to help prevent fuel oxidation (breakdown) and the formation of gum and varnish, and to inhibit corrosion in the fuel system and carburetor.
- Fuel system damage or engine performance problems resulting from the use of fuels that contain an improper alcohol blend, or by adding oil to the fuel, are not covered under warranty.
- Before buying fuel from an unfamiliar station, determine if the fuel contains ethanol and if it does, confirm the type and percentage of ethanol used. If any undesirable operating symptoms appear while using a gasoline that contains ethanol, replace it with a gasoline that has the proper blend.

Use automotive unleaded regular gasoline only. **Fuel tank capacity: 1.4 gal (5.3 Liters).**

1. If the fuel level is low, refill to the top of the fuel strainer.
2. After refueling, tighten the fuel filler cap securely.

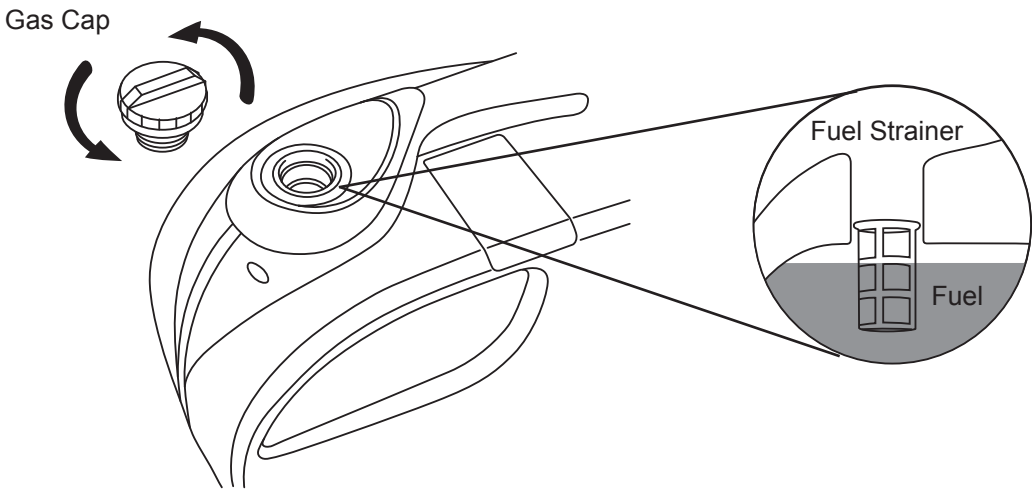


Figure 2-1, Fuel Level

CAUTION!

For gasoline containing alternate fuels do not use a blend that contains more than 10% ethanol. Do not use gasoline containing methanol. An octane rating of 87 or higher is recommended. Fuel system damage or engine performance problems resulting from the use of fuels that contain an improper alcohol blend are not covered under warranty.

2.0 Operation

2.3 Checking the Air Cleaner

CAUTION!

Never run the engine without the air cleaner element in place. Rapid engine wear will result from contaminants, such as dust and dirt being drawn through the carburetor into the engine.

Tools Required:
#2 Philips Head Screwdriver

Procedure:

1. Remove the maintenance cover.
2. Remove the three screws from the air cleaner. Remove the cover to check the element. Clean or replace as necessary (see **Section 3.4** for details).
3. Replace the air cleaner element and cover. Tighten the screw.
4. Replace the maintenance cover and tighten the screw.

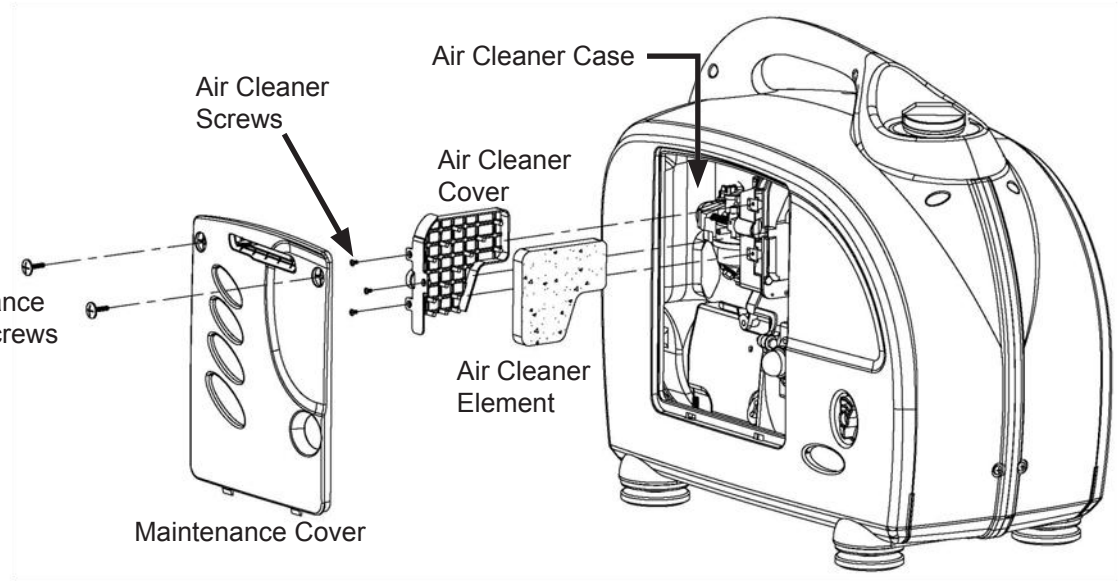


Figure 2-2, Air Filter Components

2.0 Operation

2.4 Starting the Engine

NOTE:

- When starting the generator after adding fuel for the first time or after long term storage, or after running out of fuel, turn the fuel valve to the ON position, then wait for 10 to 20 seconds before starting the engine.
- Before starting the engine, disconnect any load from the AC receptacles.

1. Turn the fuel valve lever to the ON position. If the fuel tank was empty it may be necessary to pump the primer bulb 7 times to get fuel to the carburetor.
2. Turn the engine switch ON.
3. Move the choke lever to the START position.
4. Pull the starter grip lightly until resistance is felt, then pull briskly out.
5. Move the choke lever to the RUNNING position after the engine warms up.

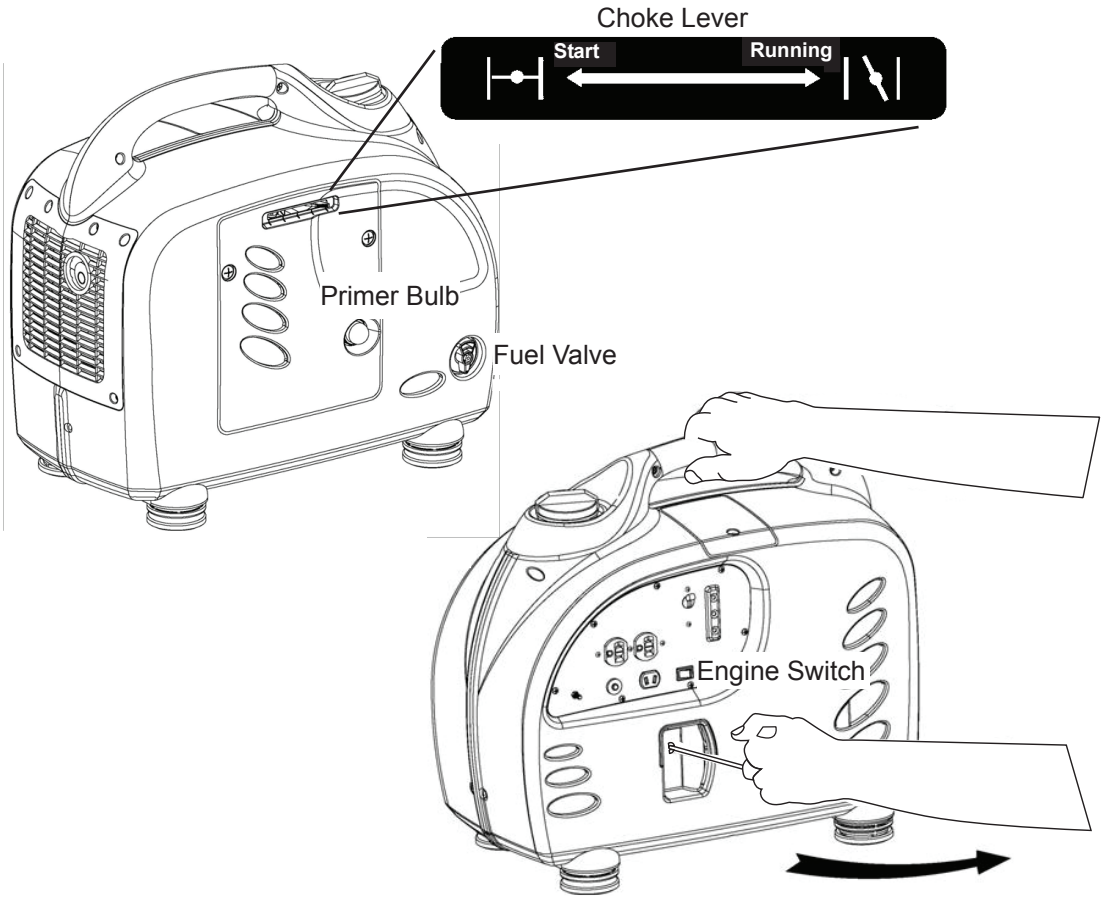


Figure 2-3, Starting the Engine

CAUTION!

- Do not allow the starter grip to snap back. Return it slowly by hand.
- Do not let the starter rope rub against the generator body or the rope will wear out prematurely.

2.0 Operation

2.5 High Altitude Operation

At higher altitudes, the standard carburetor air-fuel mixture will be excessively rich. Performance will decrease, and fuel consumption will increase.

High altitude performance can be improved by installing a smaller diameter main fuel jet in the carburetor. If you always operate the generator at altitudes higher than 6000 feet (1800 m) above sea level, have an authorized Alpha service center install a high altitude main jet.

Even with suitable carburetor jetting, engine horsepower will decrease approximately 3.5% for each 1000 feet (305 m) increase in altitude. The effect of altitude on the horsepower will be greater than this if no carburetor modification is made.

CAUTION!

Reverse any carburetor modification before operating at lower altitudes. Operation of the generator at an altitude lower than the carburetor is jetted for may result in reduced performance, overheating, and serious engine damage caused by an excessively lean air/fuel mixture.

2.6 Operating at Extreme Temperatures

High temperature adversely affects generator operation. Generator performance will decrease 1% for each 10°F (5.5°C) increase in temperature above 85°F (29°C). The normal operating range of this generator is 0° to 113° F (-18° to 45°C). Although the generator can operate at 0° F (-18° C) it will be necessary to use a lower viscosity engine oil such as SAE 0W-40. Synthetic oil is recommended for temperatures below 32° F. Even with cold weather oils, the engine will be more difficult to start.

NOTE:

In very cold weather the engine will actually take longer than normal to warm up because the oil is thinner and there is less internal friction throughout the warm up period. Once the engine reaches operating temperature 0W-40 oil is no thinner than straight 40W.

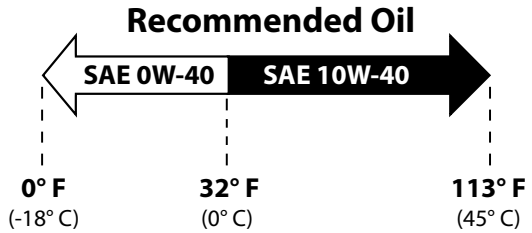


Figure 2-4, Temperature Range and OilTypes

CAUTION!

- Do not operate the generator when the ambient temperature is below 0°F (-18°C).
- Do not operate the generator when the ambient temperature exceeds 113°F (45°C).

2.0 Operation

2.7 Using the Generator

Always ground the generator before connecting loads.

WARNING! FUMES HAZARD

Indoor use of a generator can KILL quickly. Generators should be used outdoors only.

WARNING! ELECTRICAL HAZARD

- To prevent electrical shock from faulty equipment, the generator should be grounded. Connect a length of heavy cable between the generator's ground terminal and an external ground source.
- Connections for standby power to Alpha equipment should only be made by authorized and qualified personnel.
- Do not connect the generator to an automatic transfer device or severe damage may result.

NOTE:

- The DC receptacle can be used while the AC power is in use. If you use both at the same time, do NOT exceed the total power for AC and DC.
- Most equipment requires more than its rated wattage for start-up.
- For loads greater than 14 Amps, the Economy Switch might need to be turned OFF if the power supply will not synchronize to the generator.

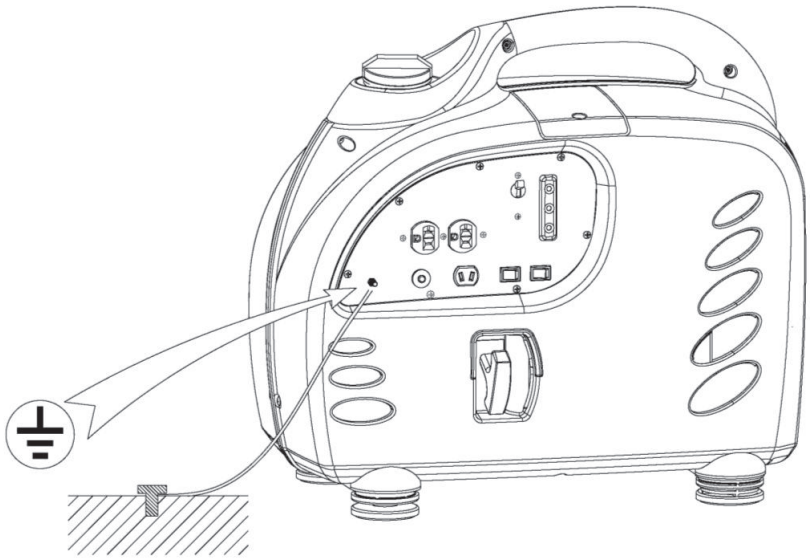


Figure 2-5, Grounding the Generator

2.0 Operation

2.8 AC Application

1. Start the engine and make sure only the output run indicator light (Green) comes on.
2. Confirm that the equipment to be used is switched off before plugging into the control panel.

CAUTION!

Be sure that all equipment are in good working order before connecting them to the generator. If the equipment begins to operate abnormally, becomes sluggish, or stops suddenly, turn off the generator engine switch immediately. Disconnect the equipment and examine it for signs of malfunction.

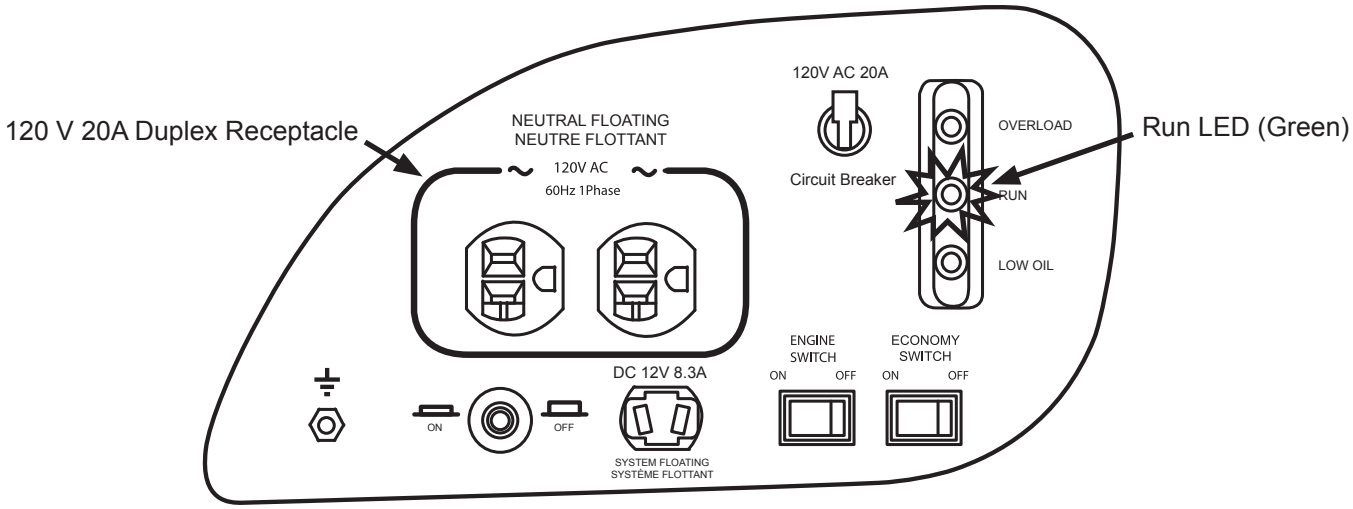


Figure 2-6, Control Panel AC Applications Components

2.0 Operation

2.9 Output and Overload LEDs

CAUTION!

Substantial overloading that continuously lights the overload LED (Red) may damage the generator. Marginal overloading that temporarily lights the overload LED (Red) may shorten the service life of the generator.

The output indicator light (Green) will remain illuminated during normal operating conditions.

If the generator is overloaded (in excess of 2000 W), or if there is a short in the connected equipment, the output indicator light (Green) will go out, the overload indicator light (Red) will turn on and current to the connected equipment will be shut off.

1. Remove all electrical loads from the generator and investigate the cause of the overload.
2. To reset the overload condition (Red light), stop and restart the generator. The (Green) indicator light should be illuminated within 10 seconds.

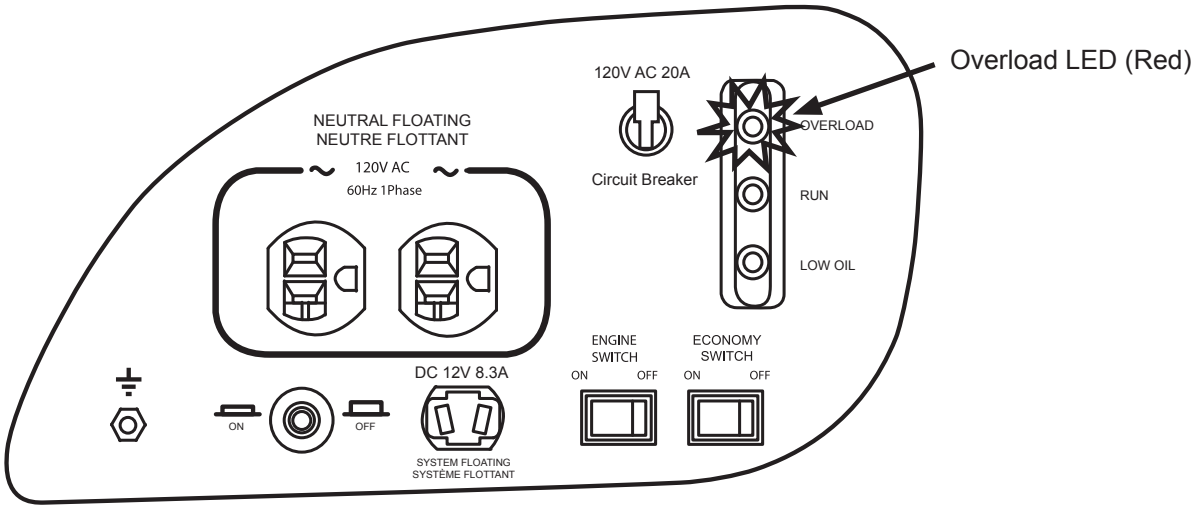


Figure 2-7, Overload LED Location

CAUTION!

- The total wattage of all equipment connected must be considered.
- Do not exceed the current limit specified for any one receptacle.
- Do not modify this generator or use it for purposes other than its intended use.
- When an extension cord is required, be sure to use a rubber sheathed flexible cord. Also make sure to use the proper size and length cord:

  16 Gauge Cords - a 16 gauge cord between 0 and 100 feet long will safely handle tool and equipment loads up to 10 amps.

  14 Gauge Cords - a 14 gauge cord between 0 and 50 feet long will safely handle tool and equipment loads between 10 and 15 amps.

  12 Gauge Cords – a 12 gauge cord between 0 and 50 feet will safely XM2/3 power supplies with NEMA 5-20 ends.

  12 Gauge Cords – a 12 gauge cord between 50 and 100 feet will safely handle tool and equipment loads between 10 and 15 amps.

NOTE:

- Before connecting or reconnecting a power supply to the generator, check that it is in good order, and that its electrical rating does not exceed that of the generator.
- When an electric motor is started, the overload indicator light (Red) may go on momentarily while the output indicator light (Green) remains on. This is not a problem as long as the overload LED only flickers on briefly.

2.0 Operation

2.10 DC Application

WARNING! ELECTRICAL HAZARD

- The DC receptacle may be used for charging 12 volt lead acid batteries only. Other types of batteries may burst causing injury or damage.
- DC charger should NOT be used to charge Power Supply back up batteries.
- To prevent creating a spark near the battery, connect the charging cable first to the battery being charged, and then to the generator. When charging is complete, disconnect the cable first at the generator.
- Before connecting charging cables to a battery that is installed in a vehicle, disconnect the vehicle's ground battery cable. Reconnect the vehicle's ground battery cable after the charging cables are removed. This procedure will prevent a short circuit and sparks if you make accidental contact between a battery terminal and the vehicle's frame or body.
- Connect the positive charging cord to the positive battery terminal. Do not reverse the charging cables, or serious damage to the generator and/or battery may occur. Injury may also occur.

CAUTION!

- Starting an automobile engine with the generator may damage the generator.
- Connect the positive charging cord to the positive battery terminal. Do not reverse the charging cables, or serious damage to the generator and/or battery may occur.
- DC operation is only intended for charging batteries. It should not be used to power DC equipment.

1. For DC operation, with the engine running, turn the economy switch to the OFF position.
2. Connect the charging cables to the battery terminals first.
3. Connect the charging cables to the DC receptacle of the generator last.

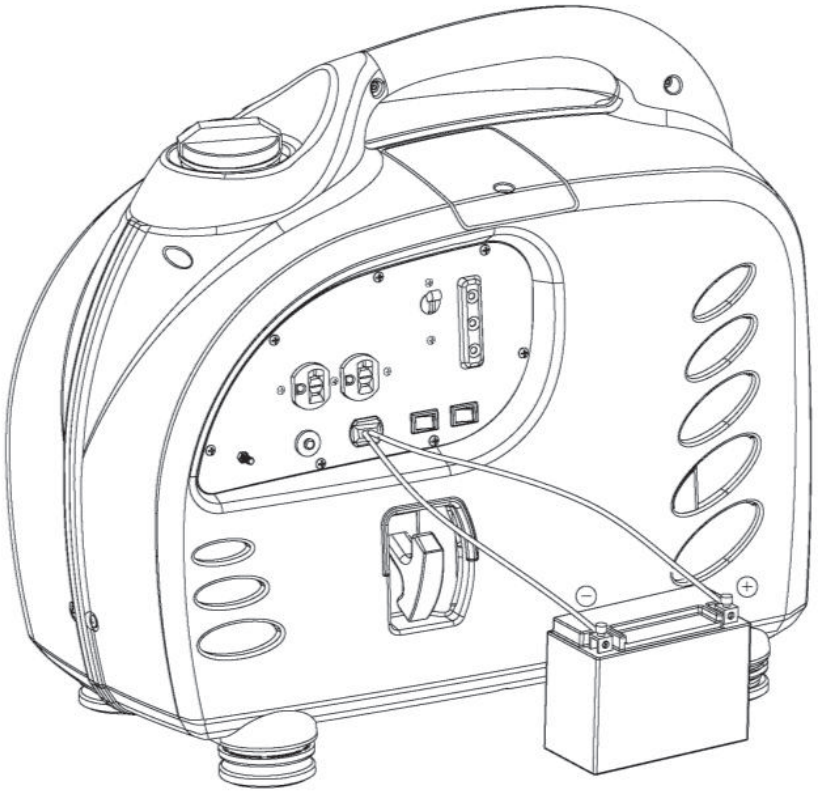


Figure 2-8, Battery Charging

2.0 Operation

2.10 DC Application

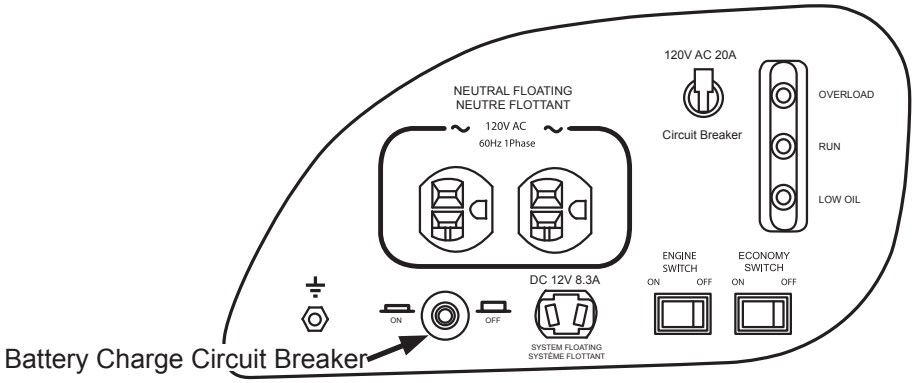


Figure 2-9, Circuit Breaker Location

WARNING! ELECTRICAL HAZARD

- Batteries give off explosive gases; keep spark, flames and cigarettes away. Provide adequate ventilation when charging.
- Batteries contain sulfuric acid (electrolyte). Contact with skin or eyes may cause severe burns. Wear protective clothing and a face shield.
- Electrolyte is poisonous. If electrolyte gets on your skin, flush with water. If electrolyte gets in your eyes, flush with water for at least 15 minutes and call a physician immediately.
- If swallowed, drink large quantities of water or milk and follow with milk of magnesia or vegetable oil. Call a physician immediately.
- KEEP OUT OF REACH OF CHILDREN.

NOTE:

- The DC receptacle may be used while the AC power is in use.
- An overloaded DC circuit will trip the DC circuit breaker. If this happens correct the overload condition and then reset the circuit breaker to resume operation.

2.0 Operation

2.11 Low Oil Alarm System

The low oil alarm system is designed to prevent engine damage caused by an insufficient amount of oil in the crankcase. Before the oil level in the crankcase falls below a safe limit, the low oil alarm system will automatically shut down the engine (the engine switch will remain in the “ON” position).

If the low oil alarm system shuts down the engine, the low oil alarm indicator light (Red) will come on when you pull the starter rope and the engine will not run. If this occurs add enough of the approved engine oil to raise the level to the top line on the dipstick.

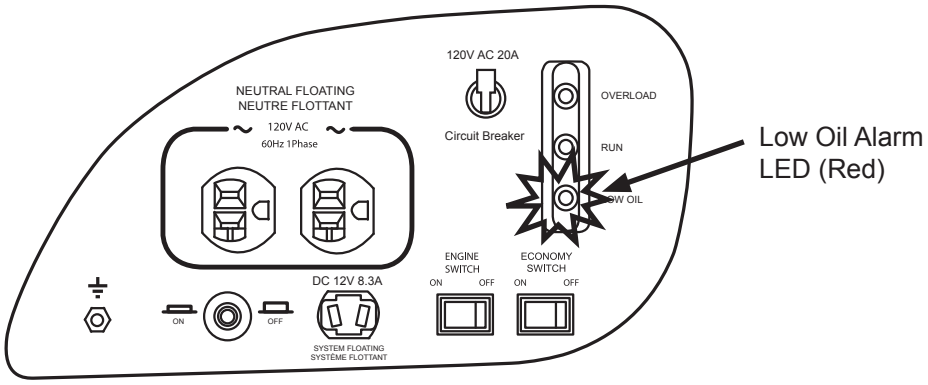


Figure 2-10, Low Oil Alarm LED Location

2.12 Economy Switch

Turning the Economy switch ON economizes fuel consumption and noise while in operation. Engine speed is kept at idle automatically when the electrical load is disconnected and returns to the proper speed to match the power of the electrical load when the load is reconnected.

Turning the Economy switch OFF disables the economy system. Engine runs at the rated load (RPM).

NOTE:

- The economy system does not operate effectively if the equipment requires rapid on-off cycling of power.
- When high electrical loads are connected simultaneously, turn the economy switch to the OFF position to reduce voltage fluctuation or shutdown.
- In DC operation, turn the economy switch to the OFF position.

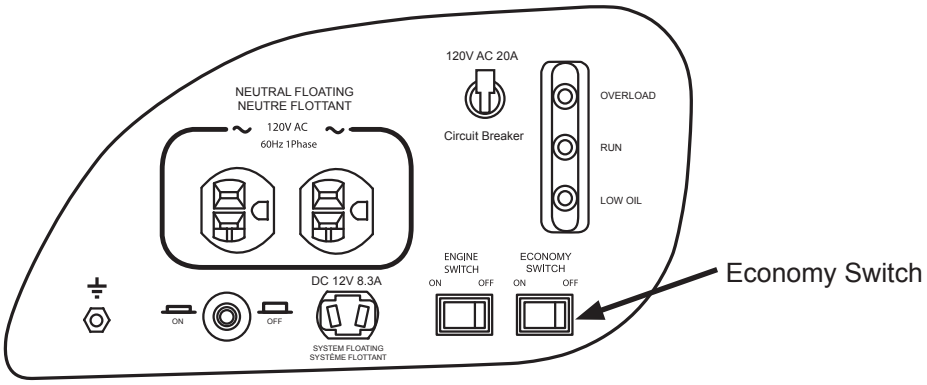


Figure 2-11, Economy Switch Location

2.0 Operation

2.13 Stopping the Engine

To stop the engine in an emergency

Push the engine switch on the control panel to the OFF position.

CAUTION!

- In an emergency, pushing the engine switch on the control panel to the “OFF” position will automatically stop the engine with or without a load. However, repeatedly stopping the generator without disconnecting all loads can cause damage to the generator or equipment.
- Continually stopping the generator with a load applied can lead to damage of the control module.

Normal Shutdown

1. Turn off the connected equipment and disconnect from the generator.
2. Push the engine switch to the OFF position.
3. Turn the fuel valve to the OFF position.

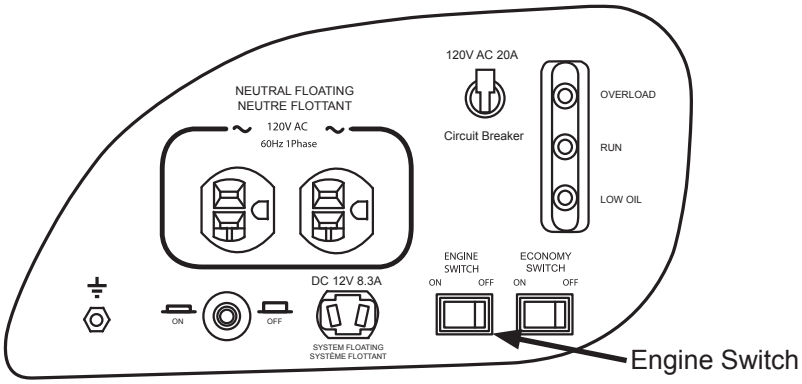


Figure 2-12, Engine Switch Location

3.0 Maintenance

The maintenance schedule will help keep the generator in peak operating condition.

There are no special operating instructions for the break in period for the engine, but the oil should be changed between the first 4 to 6 hours of operation to remove any manufacturing debris or contamination.

WARNING! FUMES HAZARD

- Engine exhaust contains poisonous carbon monoxide gas. Shut off the engine before performing any maintenance. If the engine must be run, make sure the area is well ventilated.

CAUTION!

- Use genuine Alpha approved parts. The use of replacement parts which are not of equivalent quality may damage the generator.
- When repairing or replacing components of the emission control system, only use parts known to comply with EPA standards.

3.1 Emission Control System

Emission source

Exhaust gas contains carbon monoxide, nitrogen oxides (NOx), and hydrocarbons. Controlling the emissions of NOx and hydrocarbons is important as they are a major contributor to air pollution. Carbon monoxide is a poisonous gas. The emission of fuel vapors is a source of pollution as well. The Alpha generator engine utilizes a precise air-fuel ratio and emission control system to reduce the emissions of carbon monoxide, NOx, hydrocarbons, and evaporative fuel emissions.

Regulation

This engine has been designed to meet current Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) clean air standards. The regulations dictate that the manufacturer provides operation and maintenance standards regarding the emission control system. Tune up specifications are provided in **Section 6.0, Specifications** and a description of the emission control system may be found in the appendix to this manual. Adherence to the following instructions will ensure the engine meets the emission control standards.

Modification

Modification of the emission control system may lead to increased emissions. Modification is defined as the following:

- Disassembling or modifying the function or parts of the intake, fuel, or exhaust system.
- Modifying or destroying the speed governing function of the generator.

Engine faults that may affect emission

Any of the following faults must be repaired immediately. Consult with your authorized Alpha service center for diagnosis and repair:

- Hard starting or shut down after starting.
- Unstable idle speed.
- Shut down or backfire after applying an electrical load.
- Backfire.
- Black smoke and/or excessive fuel consumption.

Replacement parts and accessories

The parts making up the emission control system supplied with the Alpha engine have been specifically approved and certified by the regulatory agencies. You can trust that replacement parts supplied by Alpha have been manufactured to the same production standard as the original parts. The use of replacement parts or accessories which are not designed by Alpha may affect the engine emission performance. The manufacturers of replacement parts and accessories have the responsibility to guarantee that their replacement products will not adversely affect emission performance.

3.0 Maintenance

3.1 Emission Control System

Maintenance

Maintain the generator according to the maintenance schedule in this section. Service items more frequently when used in dusty areas, or under conditions of high load, temperature, and humidity.

Air Quality Index

CARB requires that an air quality index label be attached to every certified engine showing the engine emission information for the emission duration period. The label is provided for the user to compare the emission performance of different engines. The lower the air index, the better the engine emission performance. The description of durability is helpful for the user to learn the engine emission duration period and the service life of emission control system. Refer to the warranty section of this Owner's Manual for more information.

The air quality index label is designed to be permanently affixed to the generator and removal should not be attempted.

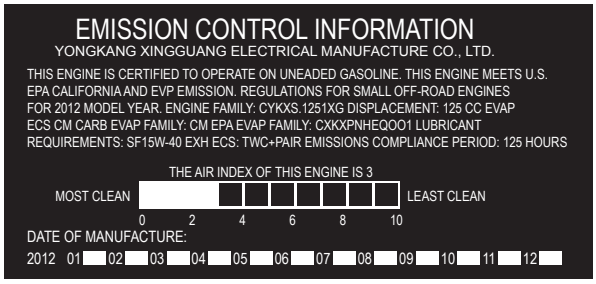

EMISSION CONTROL INFORMATION
YONGKANG XINGGUANG ELECTRICAL MANUFACTURE CO., LTD.
THIS ENGINE IS CERTIFIED TO OPERATE ON UNEADED GASOLINE. THIS ENGINE MEETS U.S.
EPA CALIFORNIA AND EVP EMISSION. REGULATIONS FOR SMALL OFF-ROAD ENGINES
FOR 2012 MODEL YEAR. ENGINE FAMILY: CYKXS.1251XG DISPLACEMENT: 125 CC EVAP
ECS CM CARB EVAP FAMILY: CM EPA EVAP FAMILY: CXKXPNHEQOO1 LUBRICANT
REQUIREMENTS: SF15W-40 EXH ECS: TWC+PAIR EMISSIONS COMPLIANCE PERIOD: 125 HOURS
THE AIR INDEX OF THIS ENGINE IS 3
MOST CLEAN
LEAST CLEAN
0 2 4 6 8 10
DATE OF MANUFACTURE:
2012 01 02 03 04 05 06 07 08 09 10 11 12

Figure 3-1, Example of Emission Control Tag

3.2 Maintenance Schedule

Item	Maintenance Procedure	Regular Service period. Perform at every indicated month or operating hour interval, whichever occurs first.*				
		Each Use	1st Month or 4 to 6 Hours	Every 3 Months or 50 Hours	Every 6 Months or 100 Hours	Once per Year or 300 Hours
Engine Oil	Check	x				
	Change		x		x	
Air Cleaner	Check	x				
	Clean			x**		
Spark Plug	Clean / Adjust				x	
Spark Arrester	Clean				x	
Fuel Filter	Check	x				
	Replace					x**
Valve Clearance	Check / Adjust					x***
Fuel Tank and Strainer	Clean					x**
Fuel Line	Check	Every 2 years (Replace as necessary)***				

*Log hours of operation to determine proper maintenance.

**Service more frequently when used in dusty areas.

***These items should be serviced by an authorized dealer or qualified personnel.

Service Period for Oil Changes	Temperature
Normal - 100 hr	77°F (25°C)
95 hr	86°F (30°C)
85 hr	95°F (35°C)
70 hr	104°F (40°C)

Table 3-1, ACX2000i Maintenance Schedule

3.0 Maintenance

3.3 Changing Oil

WARNING! BURN HAZARD

Engine oil is HOT! Avoid contact with skin and clothing.

Drain the oil while the engine is still warm to assure rapid and complete draining.

CAUTION!

Make sure to turn the engine switch “OFF” before draining the oil.

1. Remove the side maintenance cover.
2. Remove the oil dipstick.
3. Install the oil drain pipe (included with the generator).
4. Drain the dirty oil into a container. Be sure to allow time for the oil to drain completely.
5. Refill with the recommended oil, and check to be sure the oil level is at the upper line on the dipstick.
6. Reinstall the dipstick and then the maintenance cover and tighten the screws securely.

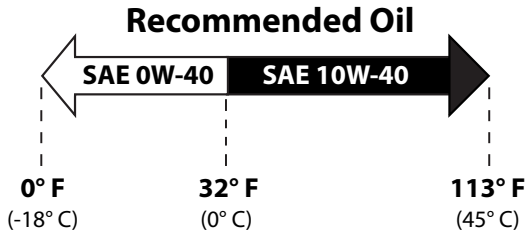


Figure 3-2, Temperature Range and Oil Types

Recommended oil is SAE 15W-40 when ambient temperature is above 32° F (0° C).

Synthetic SAE 0W-40 is recommended if operating temperatures are below 32° F (0° C).

Engine oil capacity: 15.6 fl oz (460 ml)

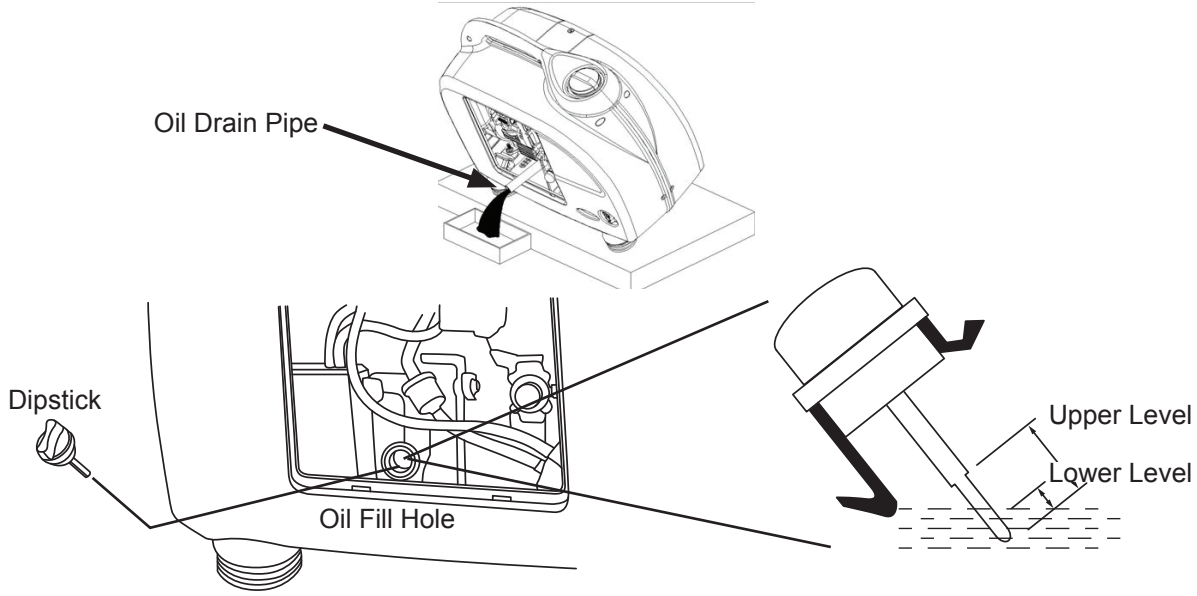


Figure 3-3, Changing Engine Oil

ATTENTION:

Dispose of used motor oil in a manner that is compatible with the environment and local disposal regulations.

3.0 Maintenance

3.4 Servicing the Air Cleaner

A dirty air cleaner will restrict air flow to the carburetor. To prevent carburetor malfunction, service the air cleaner regularly. Service more frequently when operating the generator in extremely dirty areas.

WARNING! FIRE HAZARD

Do not use gasoline or low flash point solvents for cleaning. They are flammable and explosive under certain conditions.

CAUTION!

Never run the generator without the air cleaner, otherwise rapid engine wear may result.

1. Loosen the panel screws and remove the side maintenance panel.
2. Remove three air cleaner retaining screws. Remove the air cleaner cover and check the air cleaner element. Clean or replace the element if necessary.
3. Wash the element in a non-flammable or high flash point solvent and dry it thoroughly.
4. Soak the element in clean engine oil and squeeze out the excess oil.
5. Reinstall the air cleaner element and the air cleaner cover. Tighten the cover screws securely.
6. Reinstall the maintenance cover and tighten the screws securely.

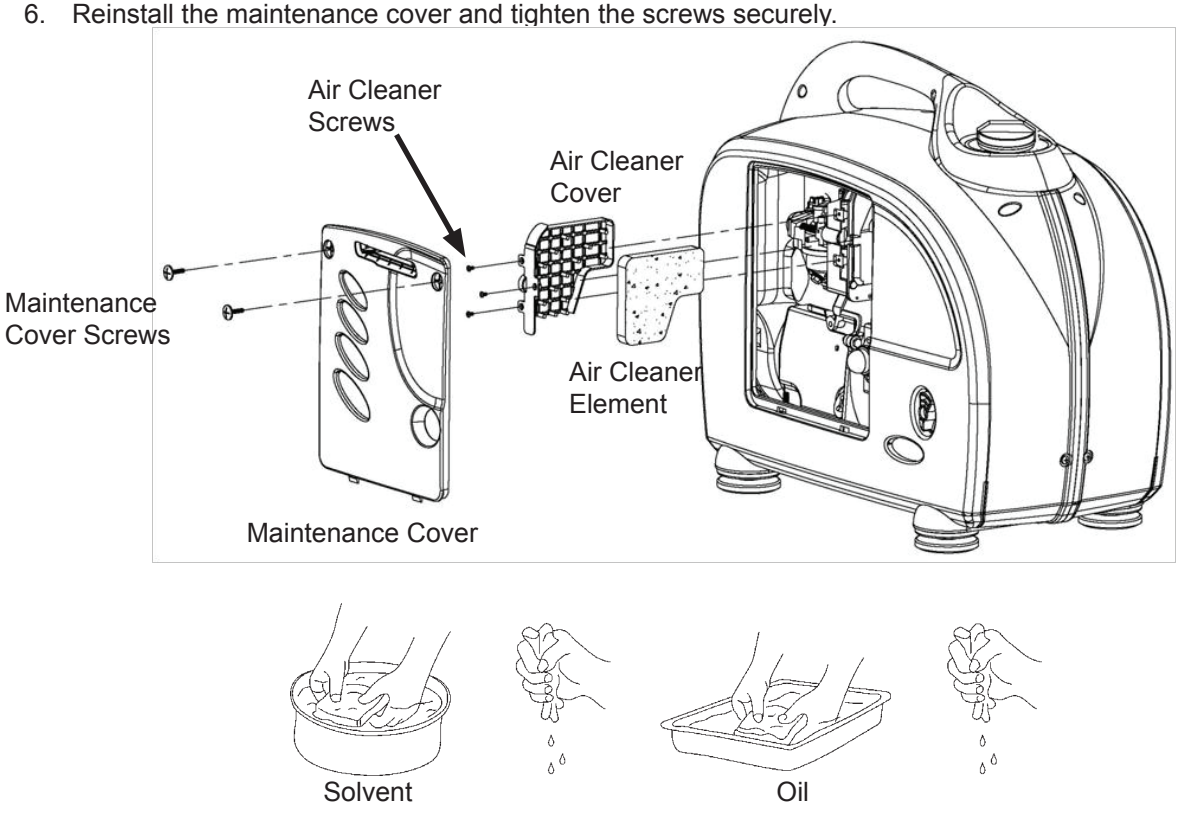


Figure 3-4, Cleaning the Air Filter

3.0 Maintenance

3.5 Spark Plug Maintenance

RECOMMENDED SPARK PLUG: A7RTC

To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

1. Loosen the cover screw and remove the spark plug maintenance cover.
2. Remove the spark plug cap.
3. Clean any dirt from around the spark plug base.
4. Use the supplied wrench to remove the spark plug.
5. Visually inspect the spark plug. Discard it if the insulator is cracked or chipped.
6. Clean the spark plug with a wire brush if it is to be reused.
7. Measure the plug gap with a feeler gauge.
8. The gap should be 0.024-0.028in (0.6-0.7mm). Correct by carefully bending the side electrode.

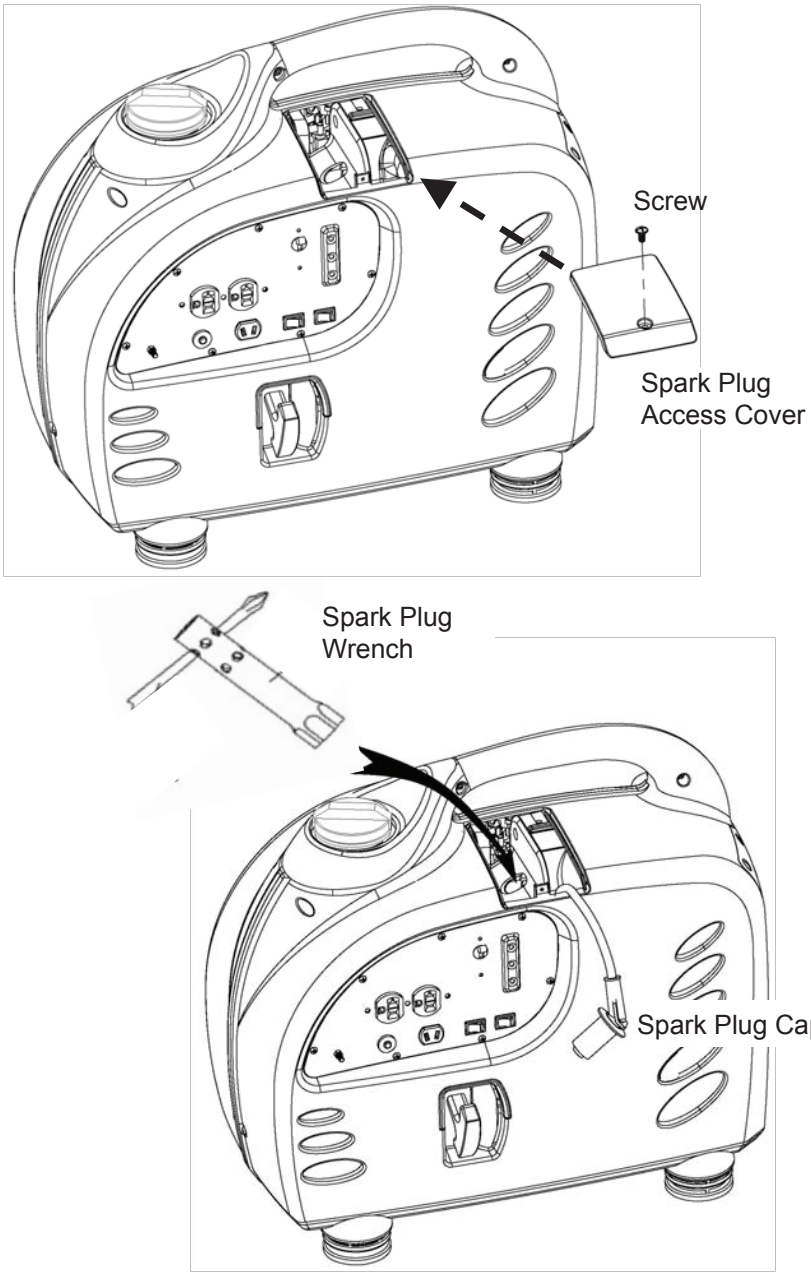


Figure 3-5, Accessing the Spark Plug

3.0 Maintenance

3.5 Spark Plug Maintenance, continued

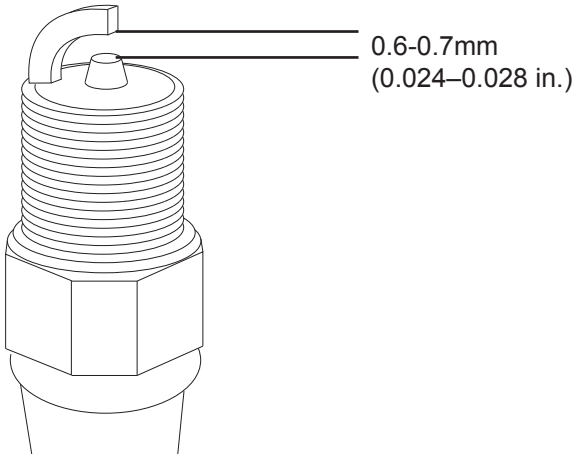


Figure 3-6, Gapping the Spark Plug

9. Install the spark plug carefully, by hand, to avoid cross-threading.
10. After a new spark plug has been seated by hand, it should be tightened 1/2 turn with a wrench to compress its washer. If a used plug is being reinstalled, it should only require 1/8 to 1/4 turn after being seated.
11. Reinstall the spark plug cap on the spark plug securely.
12. Reinstall the spark plug maintenance cover.

CAUTION!

- The spark plug must be securely tightened. An improperly tightened plug can become very hot and possibly damage the generator.
- Never use a spark plug with an improper heat range.
- Always use an A7RTC resistor-type spark plug. Using a non-resistor spark plug will interfere with AC output and the electronics, and may prevent the engine from starting.

3.0 Maintenance

3.6 Spark Arrestor Maintenance

CAUTION!

If the generator has been running, the muffler will be very hot. Allow it to cool before proceeding.

NOTE:

- The spark arrestor must be serviced every 100 hours to maintain its efficiency, or a decrease in horsepower may occur.
- Because of the size of the spark arrester opening in the exhaust grill you may decide that you do not want to take off the grill. This will not cause an issue unless you drop the arrester or the clamp or screws behind the grill. Taking the grill off or leaving it on is a matter of your convenience, but the procedure below will include removing the grill.

1. Remove the six M6 screws and remove the muffler grill.
2. Remove the two M4 screws holding the spark arrester to the muffler.
3. Use a stiff wire brush to remove carbon deposits from the spark arrester screen.
4. Inspect the screen for holes, and replace it if necessary.
5. Reinstall the spark arrester.
6. Reinstall the muffler grill.

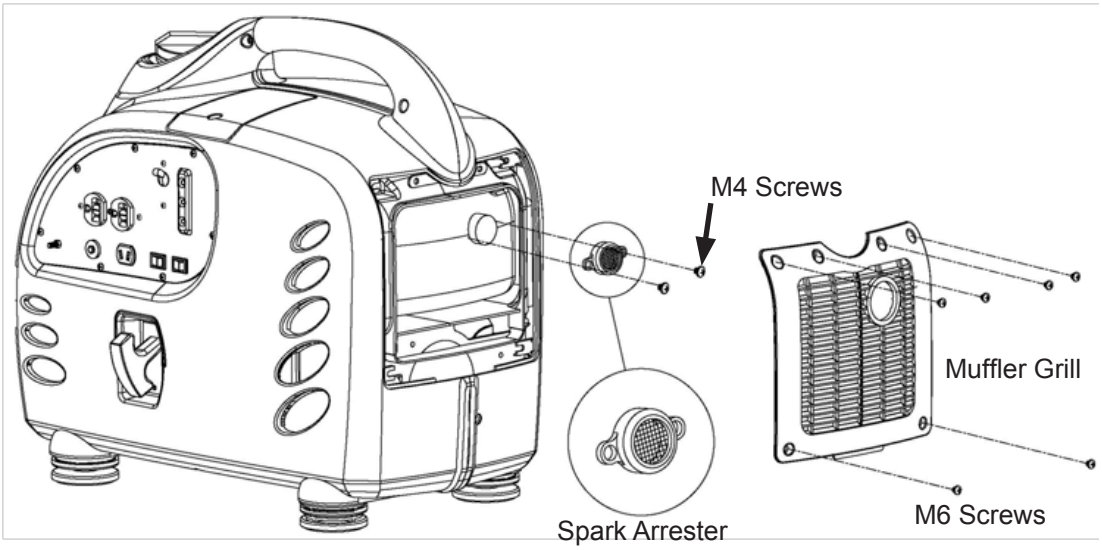


Figure 3-7, Maintaining the Spark Arrester

4.0 Transporting And Storage

4.1 Transporting the Generator

When transporting the generator, it should always be secured upright in its normal operating position with the fuel valve and engine switch turned “OFF”.

When transporting the generator:

- Do not overfill the tank.
- Do not operate the generator while it is on or in a vehicle.
- If you must transport the generator in an enclosed vehicle, drain all fuel from the generator.

4.2 Short Term Storage of the Generator

During short term storage, the generator should be secured upright in its normal operating position with the fuel valve and engine switch turned “OFF”.

Avoid placing the generator in direct sunlight when storing.

If the generator is left in an enclosed area or vehicle, high temperatures inside could cause residual fuel to vaporize resulting in possible explosion.

4.3 Infrequent Use

WARNING! FIRE HAZARD

- Gasoline is extremely flammable and explosive under certain conditions.
- Do not smoke or allow flames or sparks in the area.

CAUTION!

During long-term storage, or infrequent use of your equipment, it is important to add a fuel stabilizer, such as STA-BIL® Fuel Stabilizer, to help prevent fuel oxidation (breakdown) and the formation of gum and varnish, and to inhibit corrosion in the fuel system and carburetor.

1. Be sure the storage area is free of excessive humidity and dust.
2. It is best to keep the tank at least 95% full, as condensation will be less likely to occur in the fuel tank during storage if the tank is full. Do not overfill the tank, as the fuel will need room to expand on hot days. Add an appropriate amount of fuel stabilizer (per the instructions on the bottle) and run the generator for 5 minutes to ensure that any fuel trapped in the system has the stabilizer in it. You may also opt to add the fuel stabilizer and run the unit until it is out of fuel.

If you opt to drain the fuel, then continue on with the instructions below.

3. To drain the gasoline from the fuel tank, turn the engine switch to the “OFF” position.
4. Attach a hose to the drain fitting on the carburetor and place the other end of the hose into an approved gasoline container.
5. Turn the fuel valve to the “ON” position, and loosen the carburetor drain screw and drain the gasoline into the approved gasoline container.
6. After the fuel tank has been drained, with the drain screw loosened, disconnect the spark plug wire and pull the starter grip 3 to 4 times to drain the gasoline from the fuel pump.
7. Turn the fuel valve to the “OFF” position, and tighten the drain screw securely.
8. Change the engine oil.

4.0 Transporting And Storage

4.3 Infrequent Use, continued

9. Remove the spark plug and pour about a tablespoon of clean engine oil into the cylinder.
10. Crank the engine several revolutions to distribute the oil and then reinstall the spark plug.

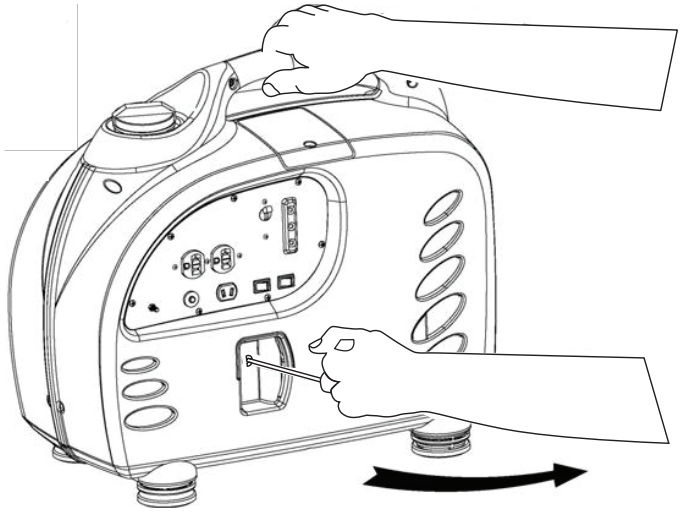


Figure 4-1, Cranking Motor to Distribute Oil in Cylinder

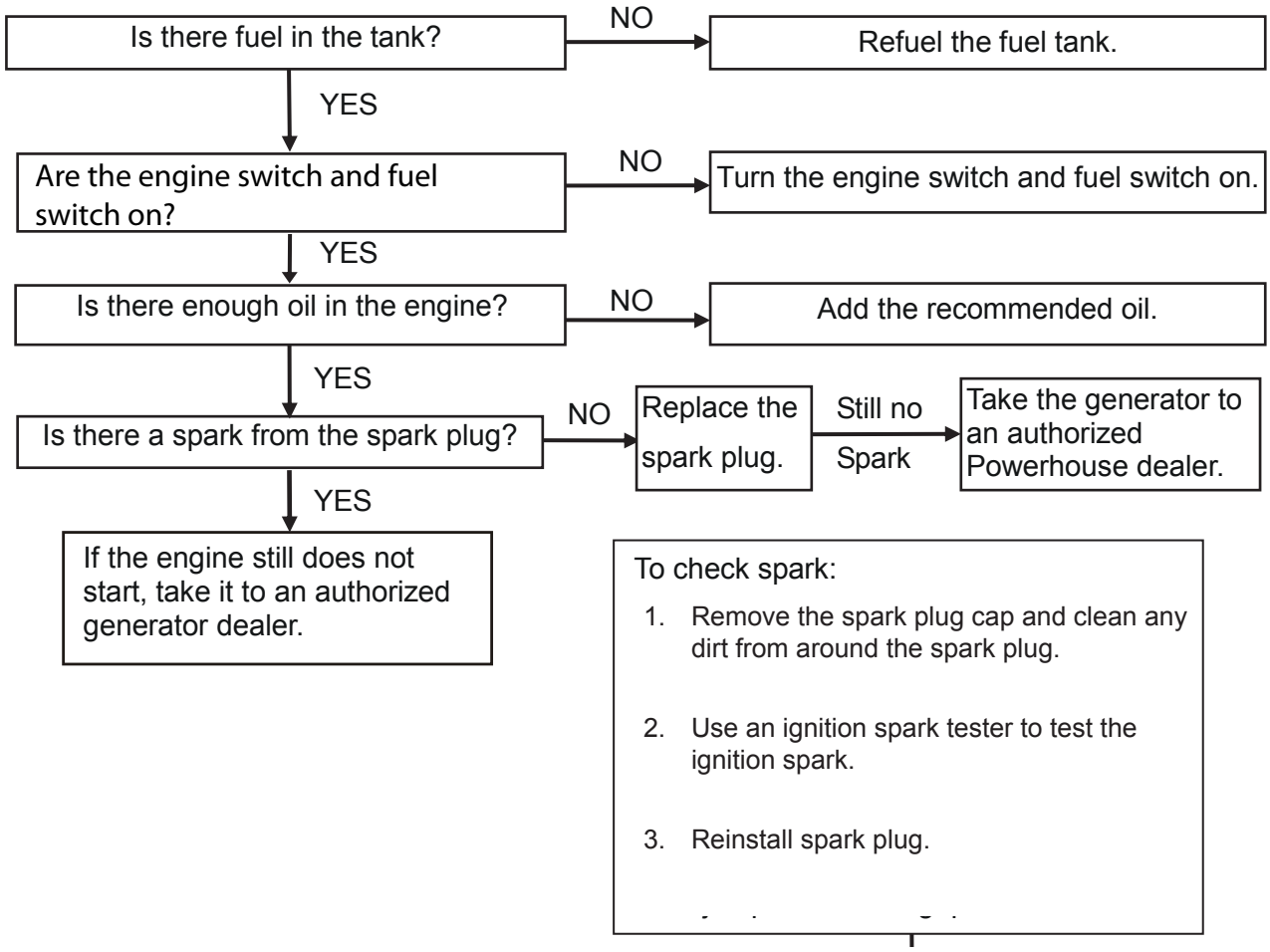
11. Slowly pull the starter grip until resistance is felt. At this point, the piston is coming up on its compression stroke and both the intake and exhaust valves are closed. Storing the engine in this position will help to protect it from internal corrosion.

4.4 Exercising the Generator

It is essential that the generator be exercised on a regular basis. This will prevent the accumulation of varnish or sludge in the fuel system; remove moisture from the generator windings. Additionally the engine seals and moving components will be lubricated. Exercise the generator by running it with at least a 1/2 load (950W) for 15 minutes per month. Gasoline fuel treatments to prevent contamination of your fuel supply are available from your dealer. Fuel varnishing necessitating replacement of the carburetor is not a warrantable failure.

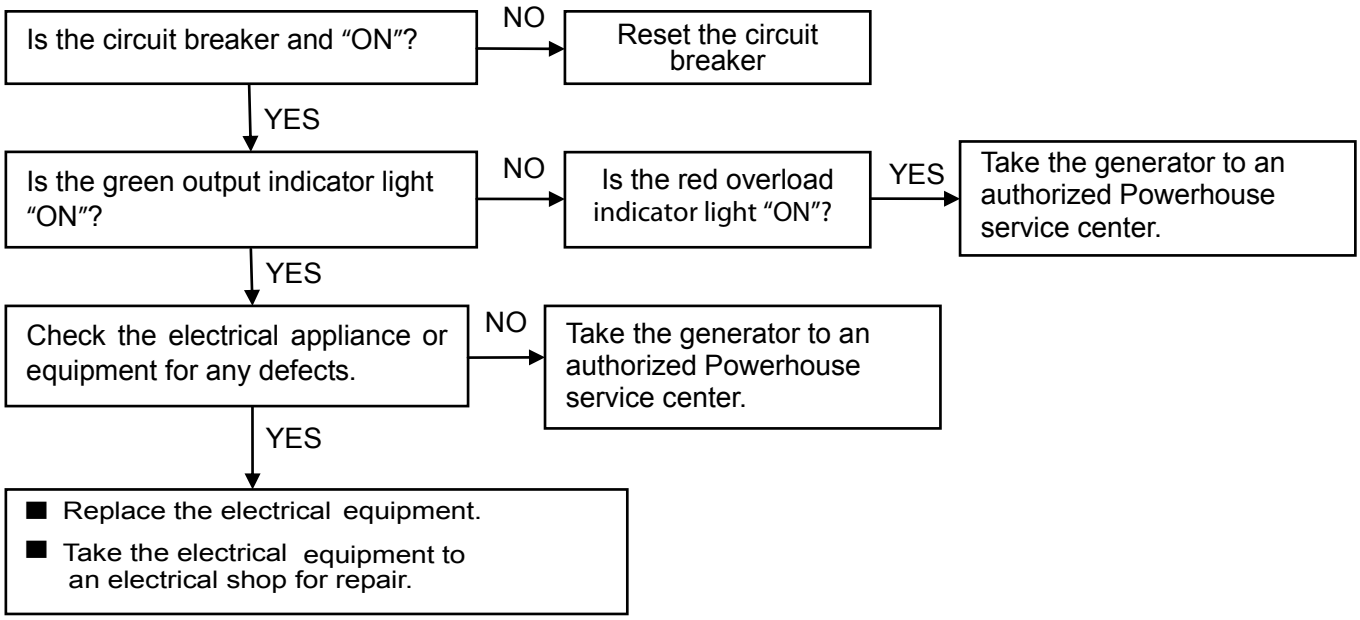
5.0 Troubleshooting

5.1 Engine will not Start

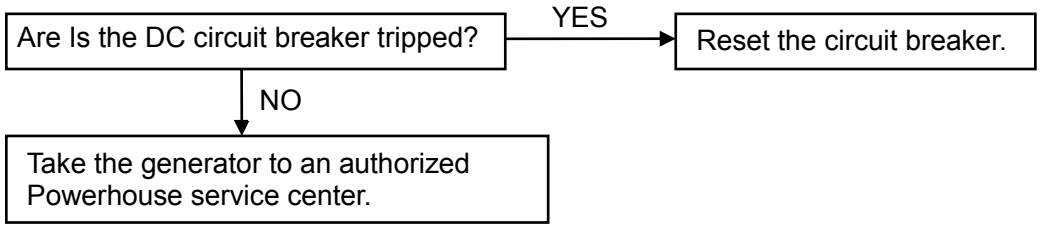

Is there fuel in the tank?
NO
Refuel the fuel tank.
YES
Are the engine switch and fuel switch on?
NO
Turn the engine switch and fuel switch on.
YES
Is there enough oil in the engine?
NO
Add the recommended oil.
YES
Is there a spark from the spark plug?
NO
Replace the spark plug.
Still no Spark
Take the generator to an authorized Powerhouse dealer.
YES
If the engine still does not start, take it to an authorized generator dealer.
To check spark:
1. Remove the spark plug cap and clean any dirt from around the spark plug.
2. Use an ignition spark tester to test the ignition spark.
3. Reinstall spark plug.

5.0 Troubleshooting

5.2 Equipment does not Operate


Is the circuit breaker and "ON"?
NO
Reset the circuit breaker
YES
Is the green output indicator light "ON"?
NO
Is the red overload indicator light "ON"?
YES
Take the generator to an authorized Powerhouse service center.
YES
Check the electrical appliance or equipment for any defects.
NO
Take the generator to an authorized Powerhouse service center.
YES
Replace the electrical equipment.
Take the electrical equipment to an electrical shop for repair.

5.3 No Output at the DC Receptacle


Are Is the DC circuit breaker tripped?
YES
Reset the circuit breaker.
NO
Take the generator to an authorized Powerhouse service center.

6.0 Specifications

Generator	
Model	ACX2000i
Rated Frequency (Hz)	60
Rated Voltage (V)	120
Rated Current (A)	15.8
Max Current (A)	16.7
Rated Output (W)	1900
Max Output (W)	2000
DC Output	12 V, 8.3 A
Phase	Single

Engine	
Model	XG-152F
Type	4 stroke, vertical shaft, air-cooled, OHC, gasoline engine
Horsepower/Displacement	4.35 / 125 cc
Compression ratio	9.2:1
Engine speed	5000 RPM with economy switch off
Ignition system	Electronic
Spark plug	A7RTC
Starting system	Recoil
Fuel	Automotive unleaded gasoline
Lube oil (synthetic or conventional)	SAE 15W-40 (0W-40 for extreme cold weather)
Oil Capacity	15.6 oz. (460 ml)
Fuel tank capacity	1.4 gal (5.3 L)
Continuous running time at (rated output)	3.4 hours
Continuous running time at (1/4 load)	8.2 hours
Continuous running time at (1/2 load)	5.2 hours
Noise level (no load - full load) dB@ 23’ (7m)	56 - 66 dB

Tune Up Specifications	
Spark Plug Gap	0.024-0.028 in (0.6-0.7 mm)
Valve Clearance (Intake)	0.0039±0.0008 in (0.10±0.02mm)
Valve Clearance (Exhaust)	0.0059±0.0008 in (0.15±0.02mm)

Dimensions	
Overall dimension (H×W×D) in (mm)	19.1 X 21.3 X 11.3 in (485 x 541 x 287 mm)
Dry weight	62 lbs. (28kg)

Table 6-1, ACX2000i Generator Specifications

7.0 Warranty And Consumer Information

ALPHA GENERATOR WARRANTY

Generators are covered by this warranty from the date of original retail purchase for a period of 1 year for residential use and 6 months for commercial applications. Units used in rental fleets, reconditioned or as demonstration models will be considered commercial usage. The warranty coverage is continual from the original date of purchase, and does not restart upon the replacement of any part or complete unit. Individual parts replaced at any point during the warranty period are only eligible for warranty coverage for the balance of the original warranty period.

Eligibility

To be eligible for warranty replacement, the product must be purchased in the United States or Canada from an authorized Coast Distribution dealer. This warranty applies to the original retail purchaser only, and is not transferable. Proof of purchase and the serial number is required.

Coverage

Pre-approved parts and labor costs will be covered by Alpha for any failure that is proven to be a failure in material or workmanship under normal use during the applicable warranty time period. This coverage is limited to parts, labor and ground shipping of repair parts. It is the responsibility of the end user to return the product to the nearest authorized repair center as directed by the warranty administration center. If in the event that the generator is deemed to be not repairable or the necessary repair would be economically unfeasible, the warranty department will authorize its prepaid return to the nearest Coast Distribution location and Coast will prepay the returned shipping to the dealer, repair center or consumer. The Coast Distribution System, Inc. reserves the right to repair or replace any part or unit at its option. The Coast Distribution System, Inc. may request defective parts to be returned. Anything replaced under warranty becomes the property of The Coast Distribution system, Inc.

To Obtain Warranty Service

Do not return this generator to the store where you purchased it. Contact any authorized dealer or contact our national customer service center at:

Phone: 1-877-544-4449 (8am to 6pm ET)

Fax: 1-800-263-0280

E-mail: warranty@powerhouse-products.com

If contacting us by fax or e-mail, be sure to include a description of the problem as well as all return contact info such as address, phone number, fax number, e-mail, etc. Engine serial number, barcode number and proof of purchase are required.

Exclusions

This warranty does not extend to parts affected or damaged by accident and/or collision, normal wear, fuel contamination or degradation, use in an application for which the product was not designed or any other misuse, neglect, incorporation or use of unsuitable attachments or parts, unauthorized alteration, or any causes other than defects in material or workmanship of the product. This warranty does not extend to normal maintenance items such as belts, hoses, spark plugs, wheels and filters past the first scheduled replacement or service interval for these items whichever comes first.

Disclaimer of Consequential Damage and Limitation of Implied Warranties

THE COAST DISTRIBUTION SYSTEM, INC. DENIES ANY RESPONSIBILITY FOR LOSS OF TIME OR USE OF THE PRODUCT, TRANSPORTATION, COMMERCIAL LOSS, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGE. ANY IMPLIED WARRANTIES ARE LIMITED TO THE DURATION OF THIS WRITTEN LIMITED WARRANTY.

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages. Therefore, the above exclusions and limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Replacement Parts Availability

To purchase replacement parts please refer to the www.powerhouse-products.com website.

7.0 Warranty And Consumer Information

CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT

Your Warranty Rights and Obligations

The California Air Resources Board and The Coast Distribution System, Inc. (POWERHOUSE®) are pleased to explain the emissions control system warranty on your 2008 and later small off-road engine (SORE). In California, new SOREs must be designed, built, and equipped to meet the State's stringent anti-smog standards. The Coast Distribution System, Inc. (POWERHOUSE®) must warrant the emissions control system on your SOREs for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your SOREs.

Your emission control system may include parts such as the carburetor, fuel tanks, fuel caps, fuel lines, the ignition system, and catalytic converter. Also included may be hoses, belts, clamps, connectors and other emission-related assemblies.

Where a warrantable condition exists, The Coast Distribution System, Inc. will repair your small off-road engine at no cost to you including diagnosis, parts, and labor.

Manufacturer's Warranty Coverage

The emissions control system is warranted for two years. If any emissions-related part on your engine is defective, the part will be repaired or replaced by The Coast Distribution System, Inc.

Owner's Warranty Responsibilities

As the SORE owner, you are responsible for the performance of the required maintenance listed in your Owner's Manual. The Coast Distribution System, Inc. recommends that you retain all receipts covering maintenance on your SORE, but The Coast Distribution System Inc. (POWERHOUSE®) cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the SORE owner, you should however be aware that The Coast Distribution System, Inc. may deny your warranty coverage if your SORE or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your SORE to distribution center or service center authorized by The Coast Distribution System, Inc. (POWERHOUSE®) as soon as the problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty coverage, you should contact the North America service center for POWERHOUSE® products:

Phone: 1-877-544-4449 (8am to 6pm ET)

Fax: 1-800-263-0280

E-mail: warranty@powerhouse-products.com

Appendix A – Emission Control System Warranty

The ACX2000i generator engine complies with U.S. Environmental Protection Agency, Environment of Canada, and the state of California (if the model is certified by CARB). The following systems and/or parts are covered by this warranty. Failures or improper operation of the following systems and components will be diagnosed and repaired with no charge for labor or parts.

Fuel System

Carburetor including the choke system and replaceable high altitude main jets

Engine speed control system (Economy Throttle)

Intake manifold

Engine control module

Evaporative Control System

Fuel tank

Fuel cap

Fuel strainer

Fuel valve

Fuel pump

Fuel lines

Carbon canister (including brackets and connectors)

Air Induction System

Air cleaner element*

Air cleaner housing

Ignition system

Ignition module

Ignition coil

Ignition winding

Spark plug*

Spark plug cap and wire

Exhaust system

Catalyst

Exhaust manifold

Secondary air injection assembly

Miscellaneous

Pipes, tubes, hoses and clamps, o-rings, seals, and gaskets associated with the above systems.

* Covered up to the first scheduled replacement only. See the maintenance schedule.

Appendix B – Emission Control System

Your generator has an engine that has been approved by the California Air Resources Board. Other than the tune up procedures specified in the maintenance section, no additional maintenance is required.

The emission control system has the following components:

Fuel System: The fuel tank, cap, indicator and hoses are specially designed and constructed to not allow fuel vapors to permeate and be released to the atmosphere.

A carbon activated canister collects gasoline vapors from the fuel tank and returns them to the combustion chamber for burning.

A catalyst is built into the muffler to further treat the engine exhaust.

A secondary air injection valve adds combustion air to ignite unburned fuel in the exhaust.

Contact your authorized POWERHOUSE® service center to obtain the correct replacement parts and service on this system.

Appendix C – Safety And Charging Instructions

(a) Save these instructions. This manual contains important safety and operating instructions.

(b) Working in the vicinity of a lead-acid battery is dangerous. Batteries generate explosive gases during normal battery operation. For this reason it is of the utmost importance that each time before using your charger, you read and follow the instructions provided exactly.

(c) To reduce risk of battery explosion, follow these instructions and those marked on the battery.

(d) Never smoke or allow an open spark or flame in the vicinity of the battery or engine.

(e) Use charger for charging a lead-acid battery only. It is not intended to supply power to an extra-low-voltage electrical system or to charge dry-cell batteries. Charging dry-cell batteries may cause them to burst and cause injury to persons and damage to property.

(f) Never charge a frozen battery.

(g) If it is necessary to remove battery from vehicle to charge it, always remove grounded terminal from battery first. Make sure all accessories in the vehicle are off in order to prevent an arc.

(h) Study all battery manufacturer’s specific precautions such as removing or not removing cell caps while charging and recommended rates of charge.

(i) For a charger having an output voltage selector switch, refer to the car owner’s manual in order to determine the voltage of the battery and to make sure the output voltage is set at the correct voltage. If an output voltage selector switch is not provided, do not use the battery charger unless the battery voltage matches the output voltage rating of the charger.

(j) Never place the charger directly above or below the battery being charged; gases or fluids from the battery will corrode and damage the charger. Locate the charger as far away from the battery as dc cables permit.

(k) Do not operate charger in a closed-in area or restrict ventilation in any way.

Appendix C – Safety And Charging Instructions

(l) Connect and disconnect dc output clips only after setting any charger switches to the off position and removing ac cord from the electric outlet. Never allow clips to touch each other.

(m) Follow these steps when battery is installed in vehicle. A spark near battery may cause a battery explosion. To reduce risk of a spark near battery:

- i. Position ac and dc cords to reduce risk of damage by hood, door, or moving engine parts;
- ii. Stay clear of fan blades, belts, pulleys, and other parts that can cause injury to persons;
- iii. Check polarity of battery posts. A positive (pos, p, +) battery post usually has a larger diameter than a negative (neg, n, –) post;
- iv. Determine which post of battery is grounded (connected) to the chassis. If negative post is grounded to chassis (as in most vehicles), see item (v). If positive post is grounded to the chassis, see item (vi);
- v. For a negative-grounded vehicle, connect the positive (red) clip from battery charger to positive (pos, p, +) ungrounded post of battery. Connect the negative (black) clip to vehicle chassis or engine block away from battery. Do not connect clip to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block;
- vi. For a positive-grounded vehicle, connect the negative (black) clip from battery charger to negative (neg, n, –) ungrounded post of battery. Connect the positive (red) clip to vehicle chassis or engine block away from battery. Do not connect clip to carburetor, fuel lines, or sheet-metal body parts. Connect to a heavy gauge metal part of the frame or engine block;
- vii. Connect charger ac supply cord to electric outlet; and
- viii. When disconnecting charger, turn switches to off, disconnect ac cord, remove clip from vehicle chassis, and then remove clip from battery terminal.

(n) Follow these steps when battery is outside vehicle. A spark near the battery may cause a battery explosion. To reduce risk of a spark near battery:

- i. Check polarity of battery posts. A positive (pos, p, +) battery post usually has a larger diameter than a negative (neg, n, –) post;
- Ii. Attach at least a 60 cm 6-gauge (awg) insulated battery cable to a negative (neg, n, –) battery post;
- iii. Connect the positive (red) charger clip to the positive (pos, p, +) post of battery;
- iv. Position yourself and the free end of cable as far away from battery as possible, then connect the negative (black) charger clip to free end of cable;
- v. Do not face battery when making final connection;
- vi. Connect charger ac supply cord to electrical outlet; and
- vii. When disconnecting charger, always do so in reverse sequence of connecting procedure and break first connection while standing as far away from battery as practical.

(o) Use of an adapter is not allowed in canada. If a grounding type receptacle is not available, do not use this equipment until the proper outlet is installed by qualified personnel.

(p) The generator (stator winding) is isolated from the frame and from the ac receptacle ground pin.

(q) Electrical devices that require a grounded receptacle pin connection will not function if the receptacle ground pin is not functional.

Alpha Technologies Inc.
3767 Alpha Way
Bellingham, WA 98226
United States
Tel: +1 360 647 2360
Fax: +1 360 671 4936

Alpha Technologies Europe Ltd.
Twyford House Thorley
Bishop's Stortford
Hertfordshire, CM22 7PA
United Kingdom
Tel: +44 1279 501110
Fax: +44 1279 659870

Alpha Technologies
Suite 1903, Tower 1,
33 Canton Road, Kowloon
Hong Kong City, China
Phone: +852 2736 8663
Fax: +852 2199 7988

Alpha Technologies Ltd.
7700 Riverfront Gate
Burnaby, BC V5J 5M4
Canada
Tel: +1 604 436 5900
Fax: +1 604 436 1233
Toll Free: +1 800 667 8743

Alpha Technologies GmbH
Hansastrasse 8
D-91126
Schwabach, Germany
Tel: +49 9122 79889 0
Fax: +49 9122 79889 21

Alphatec Ltd.
339 St. Andrews St.
Suite 101 Andrea Chambers
P.O. Box 56468
3307 Limassol, Cyprus
Tel: +357 25 375 675
Fax: +357 25 359 595

Alpha TEK ooo
Khokhlovskiy Pereulok 16
Stroenie 1, Office 403
Moscow, 109028
Russia
Tel: +7 495 916 1854
Fax: +7 495 916 1349

Alphatec Baltic
S. Konarskio Street 49-201
Vilnius, LT-03123
Lithuania
Tel: +370 5 210 5291
Fax: +370 5 210 5292

Visit us at www.alpha.com

Power

Due to continuing product development, Alpha Technologies reserves the right to change specifications without notice.
Copyright © 2013 Alpha Technologies. All Rights Reserved. Alpha® is a registered trademark of Alpha Technologies.

041-036-B000-001, Rev. A (07/2013)